SPORTSTEC
GAMEBREAKER

User Manual

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Part 4 -Analyze

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Welcome to Gamebreaker

This manual will help you find your way around Gamebreaker. The manual has been structured to conform to the workflow which, in our experience, is applicable to High School Sports and amateur sports club coaching.

This manual assumes you have already seen a demonstration or been trained in using Gamebreaker and therefore have a basic knowledge of how it works. If you are unfamiliar with Gamebreaker, or require more information, please email Sportstec at : Support@sportstec.com

Overview of Gamebreaker

Gamebreaker is very user friendly – just follow some simple steps and you'll be on your way.

Here's a quick guide on how the Gamebreaker process works. You'll find step by step instructions in the following pages.

1. Gamebreaker is "Project" based in that each event analyzed is a separate project with all components linked within that project.

2. Each project will comprise 3 components : A movie of the event; A timeline of the event ; A form containing coding objects for the event.

3. Create a new Coding Form. This is the form where you can create, edit and utilize code buttons to categorize the actions in the event.

4. Decide which actions in the event (the movie) you want to categorize (code) for future analysis. Create and name code buttons for all the actions. For example you may want to code a particular player, a particular move, or each time a goal is scored. Each button will code instances for the actions in the timeline.

5. Capture (record) the movie of the event to the hard drive, (either live or by importing the movie from an external source) and at the same time code the information you need using the coding form, or you can code the event later.

6. You now have the movie captured and the information about the movie coded in a timeline. The movie and the timeline are linked together and are a chronological record of the instances you have coded.

7. You can now analyze performance according to the information on the timeline. If you want to change the information, add to it or delete from it, it's easy. Gamebreaker is completely flexible to fit your needs.

Welcome to Gamebreaker – You'll wonder how you ever did without it!

Set-up Requirements

The recommended computer requirements for Sportstec Gamebreaker are:

Computer:

Apple Macintosh running Mac OS X 10.6.8 operating system or later

We strongly recommend adding more RAM (up to the current maximum of 8GB) to any computer running Sportstec Gamebreaker. This will be particularly relevant if you plan to use an HD camera.

Video Camera:

Digital video cameras currently range from Standard definition to Full HD.

To capture directly from the camera without a bridging converter, the camera must support FireWire (IEEE-1394) output. Cameras that record in HDV or DV will support FireWire capture. This technology is becoming obsolete, but is still available in most markets.

We support all cameras that record to SD card in .MOV format.

Nearly all cameras have some type of video output whether it be composite, s-video, component or HDMI. These signals can be captured using a converter. Check your cameras outputs when choosing a convertor. If you are choosing a new camera, make sure these connections are convenient to connect to when the camera is mounted on a tripod or other fixture.

Converter:

Firewire analog to digital video convertor. Canopus product lines are recommended.

Converters that support Thunderbolt technology:

The Matrox MXO2 family of products or the Blackmagic Intensity Extreme and Blackmagic Ultrastudio 3D are recommended. Check that your Apple Mac supports Thunderbolt before purchasing.

Cables:

Firewire cables to plug in the camera or convertor to the computer. 4 to 9 pin and 6 to 9 pin are recommended as standard cables to own.

Composite RCA video or s-video cables RCA audio cables and HDMI cables to connect the video source to a convertor and to output movie presentations to a display or recording device.

HDMI cable to plug in the camera (with HDMI Output) to the converter.

Mini Display port to DVI or VGA to connect to projectors or secondary monitors.

Thunderbolt cables for connecting to Thunderbolt convertors.

Current Gamebreaker Version

The current version which this manual relates to is **Version 1.0**

To check which version of Gamebreaker you are operating, click on "Gamebreaker" in the Main Menu. The first item in the drop down menu "About Gamebreaker n.nn.nn" displays the Gamebreaker version you have.

The electronic versions (Software DVD and website accessed,) of this manual contains links to a series of short video "tutorials". You must be connected to the Internet to access these tutorials.

These links are marked by the following icon:

Wherever this icon appears in the manual, click on the icon to view a short video tutorial which will demonstrate a feature or function of Sportstec Gamebreaker which is described in the text alongside.

Application Installation & Licensing

1. Download the full installer from the Sportstec website at www.sportstec.com.

2. Run the installer package by double clicking on the installer found in the image. Once the installation is complete, Gamebreaker will be found in the /Applications folder.

3. Launch Gamebreaker by double clicking on the Gamebreaker icon in the /Applications folder. The following window will appear which provides you with a demo period to evaluate Gamebreaker before you will be required to purchase and register the software.
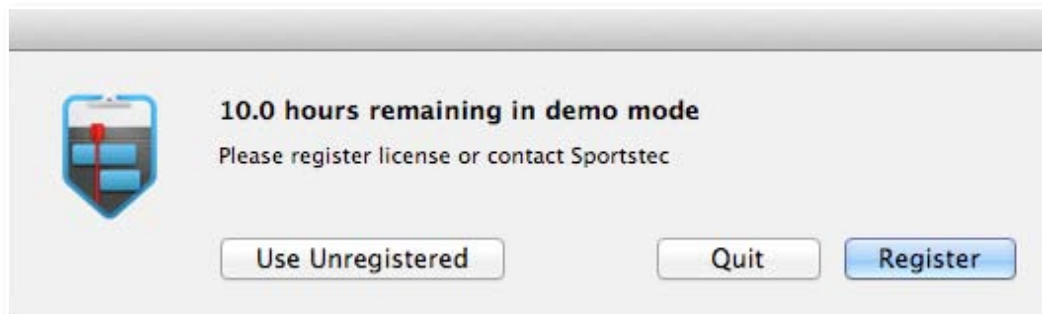
4. As a security measure, each time a softaware licence is either registered or deregistered you will be required to enter the computer Administrators name and password before being able to proceed with the registration or deregistration process. You are able to check your Administraor name and your system password by clicking on the Apple symbol in the Main Menu bar, then select System Preferences and then Accounts
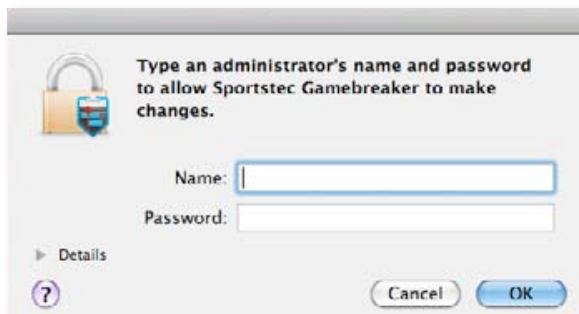
5. You will be required to register your Gamebreaker application if you intend to continue to use Gamebreaker beyond the demo period, click the "Register" button.
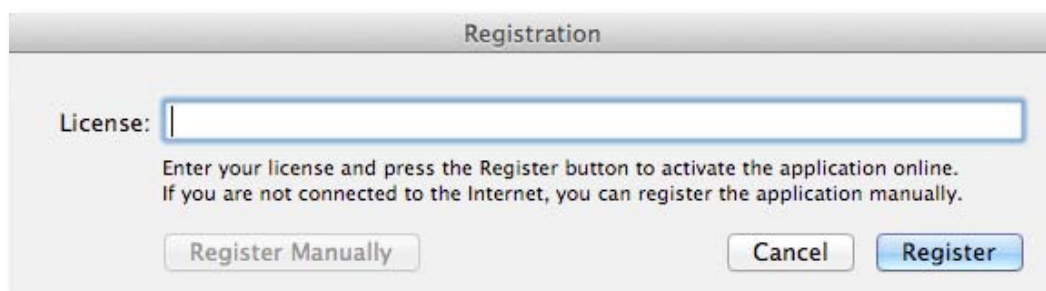
Enter the Registration Code provided to you by Sportstec and click the "Register" button.

If you have a Firewall that won't allow you to register online, you may register manually. To effect this process, click on the "Register Manually" button. Gamebreaker will provide you with a Registration Key. Email this code to admin@sportstec.com to receive an Activation Key. Enter both the Registration Key and the Activation Key into the relevant panels, then activate your software.

Software Updates

Sportstec Limited is constantly seeking enhancements to how this software can be used and Sportstec welcomes User feedback for this purpose. You are able to download any enhancements and update the software by clicking on the "Sportstec Gamebreaker " Heading at the far left of the Main Menu. From the Sub-Menu selection click "About Sportstec Gamebreaker " to check which software version you are using, and then from the same Sub-Menu select "Check For Updates". If there are any software upgrades available these may be downloaded.

Gamebreaker Support & Feedback

In order to keep Sportstec product software at the cutting edge, we invest heavily in research and development. Sportstec is constantly providing it's customers with innovations developed from features and enhancements which have been driven by customer demand. Sportstec also provides innovation that takes full advantage of advances in technology.

Sportstec has a rigorous testing process to ensure that all software is robust and fit for purpose. Occasionally a bug will exist in spite of our best efforts to discover and eliminate it.

If you discover any fault or bug in Gamebreaker , please email support@sportstec.com as soon as possible. We aim to respond to you within 24 hours of your notification.

We would also welcome other feedback and comments regarding your ideas for a function or feature which might be improved on or added.

If you require individual training in the Gamebreaker application, please contact your Gamebreaker distributor.

Choosing a Language

Gamebreaker currently supports the following language options :

English ; French ; Italian ; Spanish (Espana) : Spanish (Latin America) ; Japanese ; Chinese

English is the default language. To change the language to one of the languages supported :-
Select your *System Settings* and in your language option select your language preference.

If you select a language which is not supported by Gamebreaker, the default language (English) will prevail.

Glossary of Terms

Many terms in this manual are specific to Gamebreaker. Here's a brief explanation of the most common terms and where relevant, the properties and functions associated with that term.

Capture

To record a movie to a file on the hard disk drive or external drive.

Code

A category for information in your movie. When you want to identify an event (a piece of action) from a movie for later reference/analysis you code that action.

Coding Form

The form for creating and using Event buttons to categorize events in a timeline.

Coding Object

An object which populates the Coding Form.

Drawing Object

A graphical object created from the Drawing Toolbar which is overlaid on a movie or a whiteboard and which has a corresponding row in the Timeline.

Event Button

Event buttons are used to define an action by its name and time when it occurred in a certain play. Event buttons are toggle buttons, which means that you are required to press them to activate and press again to deactivate except when you have a lag time programmed which automatically terminates the instance at a fixed time after the instance was created.

Inspector

A tool for attributing appearance and behavioural properties to objects in the Coding Form, Movie Zone, Timeline and with Drawing Tools.

Instance

An instance is a passage in time, created by a particular event ; or is a coded segment of a movie which has the following properties (*Start Time, End Time, Code Name*) An instance becomes part of the timeline for that movie (also see code).

• **Active instance**

An instance that has been created, (by activating the Event button) but has not yet been deactivated. It has an empty End Time property.

Instance Movie

A movie created from a single instance or multiple instances coded from the Main Movie.

Lag Time

Lag time automatically terminates an instance at a specifed time after the instance has been created. When you click on the Event button to code the instance, Gamebreaker automatically adds the lag time to its end. Lag time modifies a button so that it only needs to be pressed once. The beginning of the instance is marked when the button is pressed down and the end is marked when the lag time runs out.

Lead Time

Lead time automatically adds a specific time to the beginning of an instance when it is being coded. When you click on the Event button to code the instance Gamebreaker marks the beginning of the instance in advance of when the button was pressed by the lead time specified.

Main Movie

The performance you are using as the source of your information.

Movie Dock

A pictorial display of Instance Movie thumbnails and any Whiteboards which have been created in the Project.

Objects

Objects in the Coding Form, Movie Zone, Timeline and with Drawing Tools are what the Inspector is able to attribute appearance and behavioural properties to.

Project

The Gamebreaker package consisting of the 3 principal components.

Shape

A decorative graphical object which places a visual scene on the Coding Form.

Text Box

A graphical object to place text on the Coding Form.

Timeline

The zone that displays a timeline of the movie in the movie zone and which shows each instance of all Event buttons chronologically recorded.

Timeslip

The ability to review captured video during capture.

Whiteboard

A Whiteboard is comprised of drawing objects that have no movie behind them, the background is static.

Gamebreaker Quick Start

4 Build your Code Form and start coding the video

5 Build your analysis/presentation
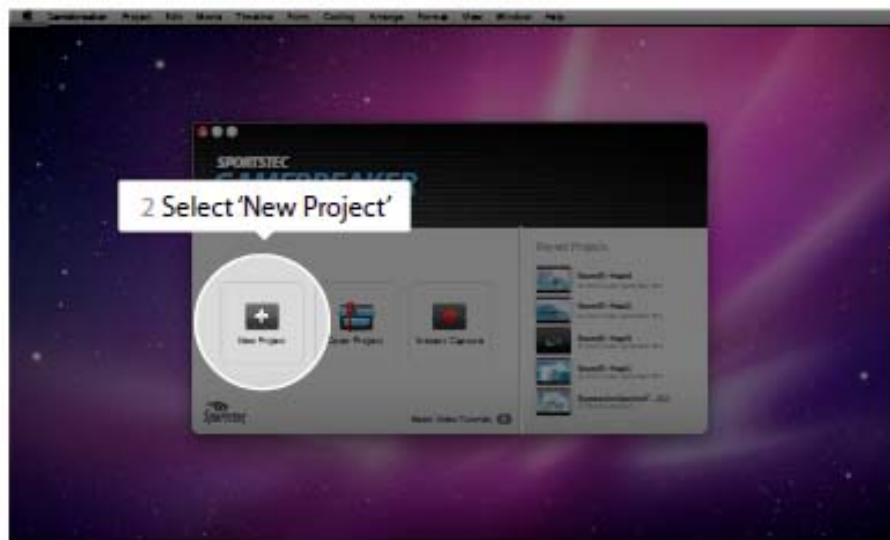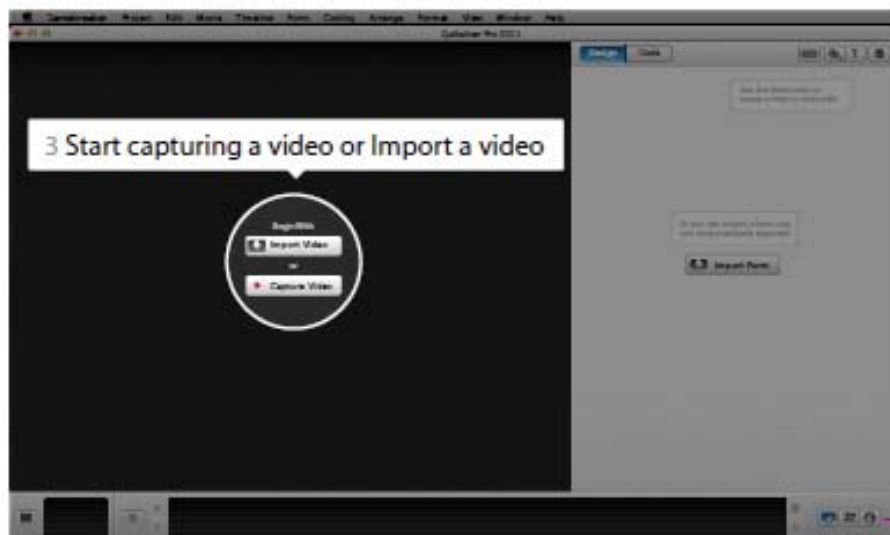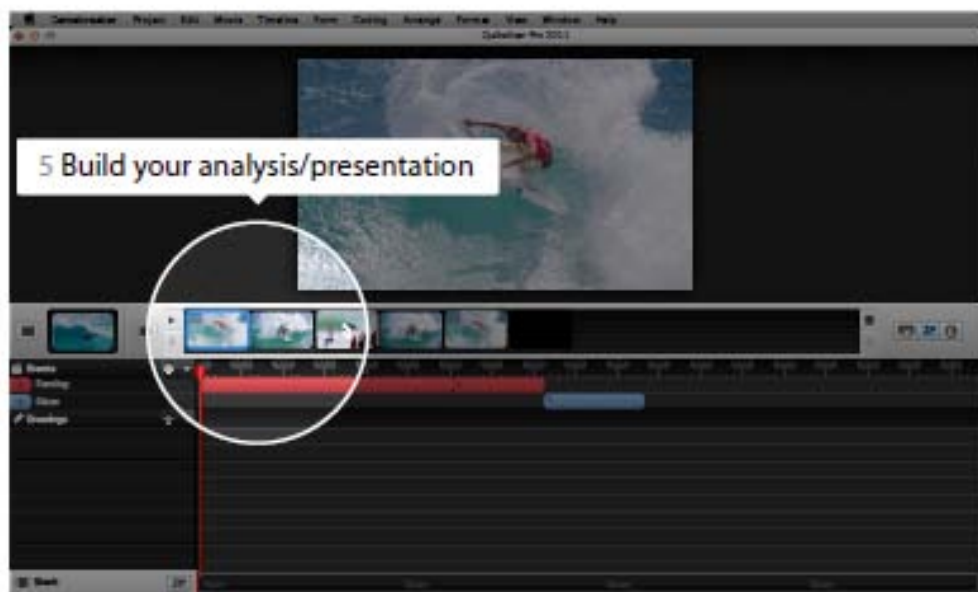
Launching Gamebreaker

To open your Gamebreaker application select the Gamebreaker Icon   from your Desktop or from the Dock or from the Applications folder.

This will open the "Project Startup Dialog Window".

When you select "New Project" in the Project Startup Dialog Window you will be asked to name and nominate where the project file will be saved before being taken to the Gamebreaker Project Window.

You may also open a new Project when the Gamebreaker application is open by selecting "PROJECT" from the Main Menu then selecting "New". You may open an existing Project by selecting "Open" or "Open Recent" and selecting your target Project from where it is saved.

When you select "Open Project ..." in the Project Startup Dialog Window you will be presented with your file storage options.

You will also launch Gamebreaker when you double click on a saved Project from wherever it is stored.

Selecting "Instant Capture" in the Project Startup Dialogue Window will immediately start a video capture. (refer to the section on page 24 for more details on what this function provides.)

You may choose to bypass this window by selecting "Preferences" from the Gamebreaker Menu in the Main Menu Bar and selecting your preferred option from the "On start-up" menu here. You may reinstate the Document Startup Dialog by going to Gamebreaker in the Main Menu, select "Preferences" and then select the "Show Startup Dialog" option

The Gamebreaker Project Window

Your Gamebreaker screen (Project Window) comprises 4 functional zones.
1. Movie Zone
2. Coding Form
3. Movie Dock incorporating movie thumbnails displayed
4. Timeline
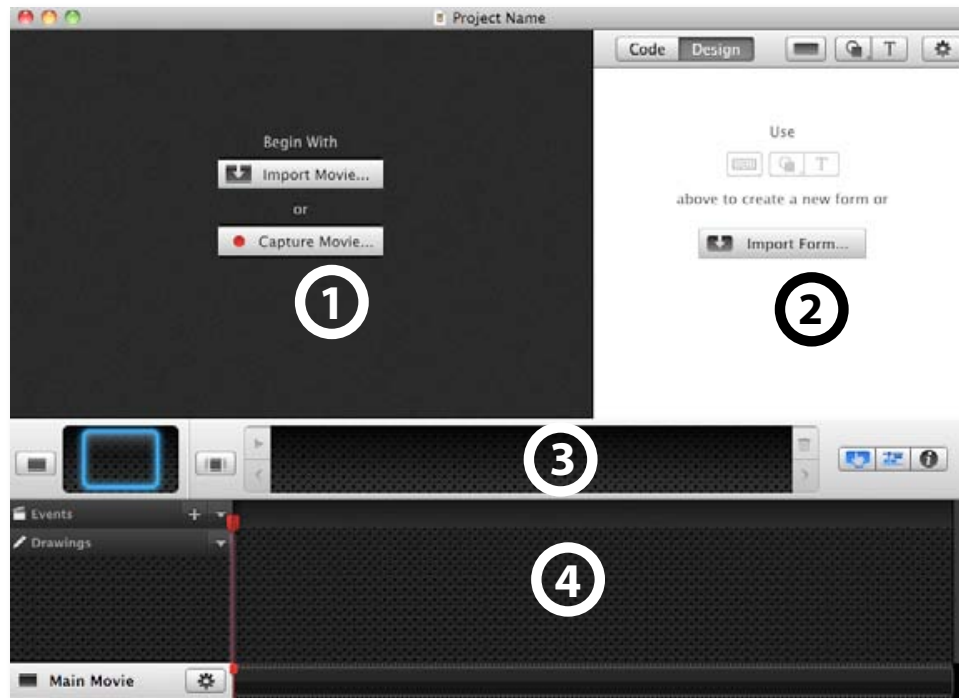
The entire window may be resized by clicking and dragging the resizing triangle in the bottom right corner of the window.

Gamebreaker has been written so that almost all the functions required of the application may be accessed/instigated from the Gamebreaker Main Menu (refer to page 15 for more information). The Movie Zone also has a Floating Toolbar with specific functions.

Gamebreaker Project Principles

Each project is a "stand alone" package consisting of a Movie component, a Coding Form and a Timeline component. A new project must be created if any of the component parts are to be replaced by an entirely new component - (not just edited). When a new project is created, each of the component parts will either be established by building it in the project or by importing it.

Apple System Features which will speed up many of the Gamebreaker processes are inherent in the Gamebreaker application. We recommend that you familiarize yourself with all the Apple system features. We have explained some of these features in the Keyboard Shortcuts (page 16), but for a

full explanation you should consult your Apple Manual.

Project Window Controls

Located to the right of the Movie Dock are the Project Window Controls :

Collapse or Expand the Coding Form

Show or Hide the Timeline

Show or Hide the Inspector

The Movie Zone

The Movie Zone contains the area in the window which plays the Main Movie & Instance Movie(s). The size of this zone may be changed horozontally by clicking and dragging the right side of the zone, it may be changed vertically by clicking and dragging on the base line of the zone.

In an empty Movie Zone, usually at the point where you "Create a New Project", you will be given the options to Import a movie or to Capture a movie.
Note: The dimensions of the movie zone in any particular project will be determined by the aspect ratio of the main movie captured.

The Movie Zone Controls

In an empty Movie Zone (contains no movies) no playback controls are displayed. When the zone contains a movie, there will be a floating control bar (refer to the "Movie Playback" section) and also a Drawing Toolbar (refer to the "Drawing Tools" section). These toolbars appear when the cursor is in the movie zone. The movie which is loaded in the Movie Zone (either Main or Instance movies) will be indicated as being selected in the Movie Dock with a blue border surrounding the thumbnail.

The Main Movie

Once a new Project is established, the Main Movie must be captured. Capture is performed by recording the performance/game to the computer hard drive either by :
 (1) Importing the Movie into the Project package from a pre-captured file.
 (2) Live from a camera or other transmission device (TV, DVD Recorder etc).

Once a movie has been captured it becomes the Main movie and its Thumbnail will be displayed in the Movie Dock.

Movie Playback

You will use these controls more than any other in Gamebreaker. It is crucial that you become very familiar with how they perform and what they do.

Once the Main Movie has been captured, playing the movie is easy, you can go to any part of the movie whenever you like with a click of the mouse. Just drag the Timeline playhead and you'll be there instantly, no need to fast forward or rewind. To select the Main Movie at any time, just click on the thumbnail. The thumbnail will be surrounded by a blue border to indicate that it is selected.

Conversely, click on an instance movie thumbnail in the Movie Dock to select it, it will become surrounded by a blue border.

You may extend the movie zone across and over the Coding Form display. Click on the right side of the Movie Zone and drag the zone to your desired width. Click and drag the side again to restore the zone to its default sizing. This will be particularly useful when you are working with the Splice Board and have two instance movies displayed side by side at the same time.

The Movie Player Controls

The Movie Player Control has an upper and lower level. The upper level contains the main player controls and the lower level contains a slider which represents the duration of the movie with the total duration on the right and the elapsed time on the left.

Show or Hide the Drawing Toolbar

 Clicking this button will either Show or Hide the Drawing Toolbar in the Movie Zone.

Play any Movie

 There are two ways to play a movie:

1. Click the Play button on the Movie Player Control
2. Press the Space bar on the keyboard

Pause any Movie

 There are two ways to pause a movie:

1. Click the Pause button on the Movie Player Control
2. Press the Space bar on the keyboard

View the Movie Frame by Frame

There are two ways to view a movie frame by frame:

1	**2**
Press the LEFT or RIGHT ARROW keys to view the movie frame by frame.	Click on the Step Forward/Back Button on the movie player control.

Go to a Specific Part of the Movie.

There are three ways to go to a specific part of the movie:

①	②	③
Drag the playhead in the Timeline to the required point in the movie.	Use the Fast Forward or Fast Rewind Buttons on the movie player control.	Press and hold the COMMAND key then press the RIGHT or LEFT ARROW keys to move the playhead though the movie.

Play a Movie in Slow or Fast Motion

The tool bar has a speed slider on the left hand side. This control provides a movie playback speed from 0.1 times normal speed (1.0 times) to 8.0 times normal speed. Click and drag the sliding indicator to the speed you require. Drag to the left to slow and to the right to quicken. All movies will then be played at the speed set.

Resize Movie Window

1.   Select the movie window.
2.   Drag the side or base line to the desired position

Presenting Movies In Full Screen

Any Main movie or Instance movie can be presented in full screen.

There are two ways to present a movie in full screen:

①	②
To play the movie in full screen presentation mode, select the movie window, and press the COMMAND+F keys on the keyboard.	On the Movie Player Control, click on the the Full Screen button at the left. This will present the movie full screen.

To stop presenting a movie in full screen and return to the Movie Zone

1.   Press COMMAND + F key on the keyboard.
2.   On the Movie Player Control, click on the Full Screen button
3.   Press the ESC key

Adjust the Movie Volume

At the right side of the player control bar, click on the Volume button. Drag the control button to the desired volume.
Use the Function keys on the keyboard to increase or decrease volume

Movie Playback Keyboard Control

Once a movie is created or linked to a timeline, you can use many key combinations to play it at different speeds.
- SPACE BAR plays and pauses the movie
- RIGHT ARROW moves the movie forwards frame by frame. Hold it down for continuous slow motion movement forward.
- LEFT ARROW moves the movie backwards by frame. Hold it down for a smooth rewind action.

Loop Instance Playback

Looping an instance repeats it continuously

1. On the player control bar, select the Loop button.
2. Play the movie.

The Coding Form

The Gamebreaker Coding Form is the starting point for coding your video. It contains the categories (buttons) you want to analyze, such as set pieces in a field hockey game. Event buttons are used to categorize and mark the time of events in your movie. These events, or instances, become your own personal study of performance-specific information. You can save time by coding instances as you capture your movie. Then if you want to change, add or delete information, it's easy to go back and do so later.

You may orient your Coding Form on the left or right of the Project Window by selecting which option you prefer from the Form dropdown in the Main Menu or from the menu options contained in the Contextual Menu icon in the Code Form Toolbar.

The Movie Dock

The Main Movie thumbnail is displayed at the left of the Dock. The Instance Movie thumbnails (which occupy the main body of the Movie Dock) is a pictorial display of thumbnails of Instance Movies and Whiteboards which have been created in the Project. The Movie Dock may also contain Spliced Boards.

The Timeline Zone

A Timeline is a graphical representation of the movie duration expressed in hours: minutes: seconds: hundredths of a second. The Timeline may be divided up into Instances. Instances catagorize chosen events which happen in the movie. A Timeline may also contain drawing objects.

The Main movie and each Instance movie will have their own independant Timeline(s). Drawing objects may be placed within any Timeline, but because the Timelines act independantly of each other, the drawing objects in one will not be visible in any other.

A Timeline is divided into Instances (or populated) by the Coding process in which Event buttons in the Coding Form are selected to identify and catagorize the events which you wish to analyze. Instances may also be created manually in the Timeline. (Refer to the Code section of this Manual)

The Inspector

The Inspector tool assigns Behaviour and Appearance properties to Objects . The Inspector functions may be applied to the Coding Form, Movies in the Movie Zone, the Timeline to Drawing Tools and to drawing objects.

Refer to the relevant sections of this Manual for detailed explanations of the Inspectors functions.

The Main Menu

For the purpose of this manual, the functions of each of the Main Menu Headings in the Main Menu Bar are summarized below.

Gamebreaker : The functions are limited to

Registration & deregistration of your Gamebreaker licence
Gamebreaker version updates

Gamebreaker Preferences :
The Preferences Window provides you with options for 4 default startup settings for Gamebreaker.

Project: The functions are all standard Apple system functions.

Edit: The functions are all standard Apple system functions.

Movie :   The functions are all Gamebreaker specific and are described in the "Movie Zone" section.

Dock :   The functions are all Gamebreaker specific and are described in the "Movie Dock" section.

Timeline : The functions are all Gamebreaker specific and are described in the "Timeline" section.

Form :   The functions are all Gamebreaker specific and are described in the "Code Zone" section.

Arrange :   The functions are all Gamebreaker specific and are described in the "Code Zone" section.

Format :   The functions are all standard Apple system functions.

View :   The functions are restricted to Show or Hide the Inspector, Colors & Fonts.

Window : The functions are all standard Apple system functions.

Help :   Contains an electronic copy of this manual.

Gamebreaker Keyboard Shortcuts

The following table describes the keystroke symbols used to depict keyboard shortcuts

KEYSTROKE	KEYSTROKE SYMBOL
COMMAND	⌘
CONTROL	^
OPTION	⌥
SHIFT	⇧
LEFT RIGHT UP DOWN ARROWS	← → ↑ ↓
PAGE UP PAGE DOWN	fn↑ fn↓
CLICK	☼

The following table describes the keystrokes which are used for Main Menu System Functions or keystrokes for Main Menu functions which are in common usage.

MENU ITEM - FUNCTION	KEYSTROKE
PROJECT	
New	⌘N
Open	⌘O
Close	⌘W
Save	⌘S
Save As	⇧⌘S
Page Setup	⇧⌘P
Print	⌘P
EDIT	
Undo	⌘Z
Redo	⇧⌘Z
Cut	⌘X
Copy	⌘C
Paste	⌘V
Copy & Match Style	⌥⇧⌘C
Paste & Match Style	⌥⇧⌘V
Select All	⌘A
VIEW	
Show/Hide Colors	⇧⌘C
Show/Hide Fonts	⌘T
WINDOW	
Minimize	⌘M

Note : The "Undo" function in the Edit Menu will perform only as far back as the last "Save".
The following table describes the keystrokes which are used for Main Menu functions specifically for Gamebreaker.

MENU ITEM - FUNCTION	KEYSTROKE
EDIT	
Copy Style	⌥⌘C
Paste Style	⌥⌘V
Special Characters	⌥⌘T
MOVIE	
Full Screen	⌘F
CODING	
Change into Coding/Design Mode	^⇧Q
Start Coding	^⇧A
Stop Coding	^⇧Z
ARRANGE	
Bring Forward	⌘ ↓
Send Backward	⌘ ↑
Bring to Front	⌥⌘ ↓
Send to Back	⌥⌘ ↑
Lock Position	⌥⌘L
Unlock Position	⌥⌘U
FORMAT - Font	
Bold	⌘B
Italic	⌘I
Underline	⌘U
Bigger	⌘＋
Smaller	⌘–
FORMAT - Text	
Align Left	⌘{
Align Center	⌘|
Align Right	⌘}
Copy Ruler	^ ⌘C
Paste Ruler	^ ⌘V

VIEW	
Show/Hide Inspector	⌥⌘I

You may choose to allocate your own Function keystrokes by :
1.   Choose a keystroke combination which does not already exist in the above tables
2.   Click on the Apple symbol and navigate to System Preferences
3.   Click on the Keyboard icon then select Keyboard Shortcuts then Application Shortcuts
4.   Click on the + checkbox to activate your chosen Keyboard Shortcut
5.   Expose the list of available applications using the dropdown symbol
6.   Choose Sportstec Gamebreaker

If the keystroke combination you have chosen is already allocated and in use, you will be advised and you shall have to choose another combination.

Capture

We define capture as the process of recording video from a camera or digital convertor into a file on the internal hard disk of the computer or other storage device.

The Movie Zone contains the area in the window which plays the Main Movie & Instance Movie(s). In an empty Movie Zone, at the point where you "Create a New Project", you will be given the option to Import a movie or to Capture a movie.
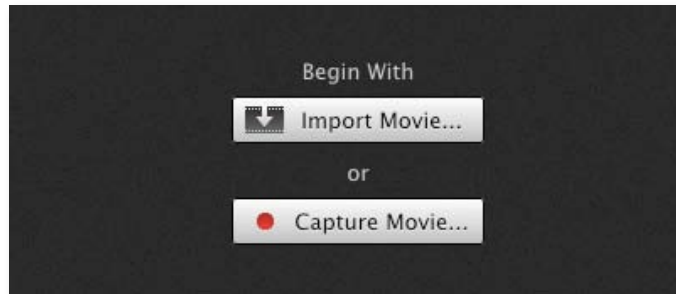
Import a Movie (Pre-captured)

This is a standard file import process. When you click on the "Import Movie" button, the window will open for you to navigate to your file list(s) to select the movie file you require.

Note: Gamebreaker is compatible with any movie format which can be opened with Quicktime Player. If you have received video that has been recorded from a television broadcast or similar, this footage will usually require "ripping" or converting to a format which Gamebreaker can work with. If you are unfamiliar with this process, please view the video tutorial on Capture or contact Sportstec Support for assistance.

Capture Movie

Gamebreaker supports various PCI capture cards, firewire and USB cameras such as a webcam. *Warning*: The USB port on most hard disk drive or SD card cameras is for file transfer only, it does not output a video stream. Hence, many of these cameras cannot be used for live capture.

Specify your Capture Settings, then ensure the camera or video source is connected to your computer.

When the "Capture Movie" button is clicked, Gamebreaker will search for any connected video sources. If it does not find an external camera, it will default to the built-in iSight camera (if available) on the computer otherwise it will indicate none available. This is useful to know when testing connectivity between computer and video sources.

For computers manufactured prior to January 2011, the cable used to connect to a video converter (between the camera and the computer) is likely to be a 9-pin to 4-pin or 6-pin to 4-pin Firewire cable. The 9-pin or 6-pin end of the cable connects to the computer and the 4-pin connects to the converter. Digital converters generally have a 6-pin connector, but some have both 4-pin and 6-pin.

For computers manufactured after Jan 2011, we recommend you use a "Thunderbolt" cable connector.

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Making the Connections

When connecting any video devices for capture, try to visualize the video signal flow. Drawing the video flow on paper can be very helpful. Start by identifying the source and destination connectors physically on the devices, then map out how they are going to connect to each other, matching video out to video in accordingly eg. if you are sourcing the video from a satellite receiver, you are likely going to be using an analog to digital convertor as a bridge from the source to the capturing computer.

Direct Connections

DV , HD, USB
Connection

Capturing
Computer
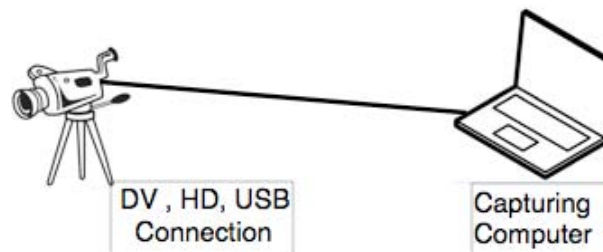
Video Flow

Satellite Video Out > Convertor Video In > Convertor Firewire Out > Computer Firewire In

So, the video flow will start at the video out connector of the satellite box, travel to the video in connector on the convertor using an RCA cable, then travel to the computer using a Firewire cable. Set the convertor settings to analog input if automatic detection is not enabled.

Settings for Live Capture
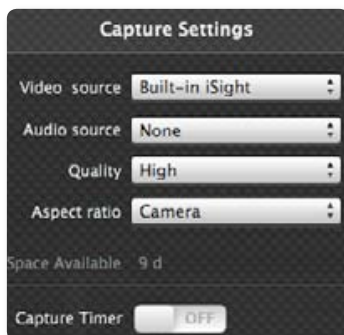
Video source : Click on the menu arrowheads. The choices available will be presented in 3 panels. The upper panel will comprise the options for iSight camera and any camera which is connected to the computer by Firewire connection. The middle panel will contain a list of IP Cameras already set up. The bottom panel provides a facility to edit the camera list.
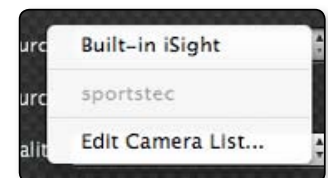
Audio source : If your video source is iSight camera or other camera connected to the computer by Firewire connection, select which audio source you will use (or none for no audio).
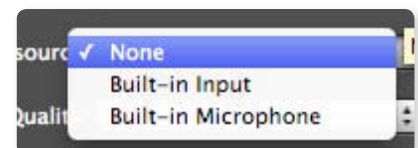
Video Quality

Video can be captured using 3 or 4 quality settings depending on the operating system and the device that is being used to capture the video signal. It is important to note that Uncompressed and Best quality settings are less CPU intensive where High and Standard are far more CPU intensive. If your computer is older, ie Intel Core 2 Duo, we recommend using the Uncompressed or Best quality settings. This will mean larger file sizes, but the capture will be successful. To save space, the file can be compressed after capture to any settings of your choice.

The four quality settings available are:

Uncompressed

- Will capture the native video being streamed from the device. This setting can produce excellent quality files, but it generally produces large files and for certain capture devices this can generate files so big that they are essentially unusable by less powerful systems.

Best
- Will capture video feeds up HD 1080. This setting uses the Apple Intermediate Codec, it produces great quality video, but again the files can be quite large. This setting is recommended if you want to capture HD 1080 video.

High
- This setting captures H.264 HD 720p. This produces very nice quality video at 720p frame size and keeps the file sizes down to very friendly levels. Do not use this setting if you are capturing from a standard definition capture device. There is no benefit of scaling the video up to this frame size.

Standard
- This setting will capture H.264 standard definition, producing video at 640x480 frame size. If you are capturing standard definition, use this setting. You will find it creates a very small file with acceptable quality.

Aspect Ratio

If a Canopus box converter is used (converts an analog signal from the camera or transmission source to digital) you might have the resultant video distorted. To correct the distortion you may manually alter the aspect of the picture to either 4x3 or 16x9.

Space Available

Gamebreaker remembers the size of the file captured by each of the cameras according to the options set from the previous time this camera captured. So when this camera is selected to capture again, Gambreaker is able to calculate the amount of storage required per minute of capture for that camera. The amount of capture time remaining at those settings based on the amount of storage capacity available on the computer hard drive (or storage peripheral) is displayed in minutes, hours and days.

Important : Check the available space before starting capture.

Capture Timer

Slide the switch to the right to turn it on. The fields provide you with the ability to specify the duration of the capture with a count-down timer to the capture end. You may amend the capture time at any time. The amended capture time will take effect from the time that you click the apply button. The countdown timer will display the time to run calculated from the beginning of the capture session or if amended, from the time the amendment was applied.

Start Movie Capture

To start your Capture, Click on the RED "Capture" button in the Movie Zone or select "Start Capture" from the "Movie" Menu.

During capture, a red disc will flash in the top right corner of the movie view and the floating toolbar will change to display the pause and stop buttons and will also display the elapsed time with a horizontal red progress bar.

The Capture Toolbar

Show / Hide Capture Settings

This will display or remove the Capture Settings panel described on the previous pages.

Timeslip

Click the button to review the video captured without interupting the capture and then click its red stop button to return to the live capture.

Pause / Resume Capture

To pause capture, click the pause button. While capture is paused, the red flashing disc at the top right of the movie view will display constant red. To resume capture click on the pause button again.

Stop Capture

To stop capture, click on the Stop capture button or select "Stop Capture" from the Movie Menu.

When you stop capture, Gamebreaker performs a function to "finish" the movie file that has been captured. The captured movie is referred to as the Main Movie.

Adjust the Audio Volume

Move the slider to vary the volume of the audio output during capture. It does not affect the audio level on the sound track of the movie.

Full Screen Capture

Click this button to expand the vision to full screen. To return to the movie zone display click it again or key COMMAND + F or press the ESC key.

Capture Time Indicator

This displays the total capture time storage capacity available (in days, hours, minutes and seconds) on the right. In the illustration above this indicates 9 days. On the left of the display, the duration of the current capture is displayed. In the illustration above this indicates 5 seconds. As the storage capacity of the capturing computer is filled, the line will graphically display in red the proportion of storage used.

Interrupted Capture

If the capture is unexpectedly interrupted or the capture fails before you **Stop Capture,** the next time you login to Gamebreaker the video in a Project file which had been captured before the capture failure will be displayed in the Project Startup Dialog window at the top of the Recent Projects list in RED. You will be given the option to "Restore"; "Remove" or "Cancel".

Restore will perform the flattening process on the video file which would have been performed in the normal course of events. Remove will delete the project. Cancel will allow you to proceed to other tasks in Gamebreaker and leave the project file in question in abeyance until you decide what you want to do with it.

Instant Capture

"Instant Capture" will bypass the normal setup protocols that prompt you to define the capture parameters, and immediately launches the capture function using the last parameter settings used. This function may be very useful where the setup time is limited and you are confident with your settings. By default the Instant Capture project will be named "Instant Capture No." and it will be placed on your desktop.

Timeslip

Timeslip gives you the ability to review captured video during the capture without interrupting the capture by clicking on the Timeslip icon. During capture, a red disc will flash in the top right corner of the movie view. During Timeslip you will not see this flashing disc to indicate that the capture is continuing, but instead the entire Capture Time Indicator in the Timeslip toolbar will be colored red. The Timeslip icon will also be replaced by a button with a red dot which you click when you wish to return to the capture in real time.

During a Timeslip review of the movie being captured, you may review, edit or remove any instance in the Timeline. You may also insert new instances either manually in accordance with the instructions on page 44 or by positioning the Playhead at the point where you wish the new instance to start, then press the relevant Event button and drag the playhead to the point at which you want the instance to end. If you use an Event button for this task and instead of dragging and ending a new instance, you return to the real time capture with the Event button active, the instance created will start from the start point and be continuous up to the real time and until the Event button is deactivated. You may also insert a drawing object (or multiple drawing objects) during Timeslip by using the drawing tools.

These amendments will automatically be saved for post capture review and analysis.

The Coding Form

The Gamebreaker Coding Form is the starting point for coding your video. It contains the categories (buttons) you want to analyze such as set pieces. Event buttons are used to categorize and mark the time of events in your movie. Pressing an Event button marks the Timeline of the movie and this is graphically represented in the Timeline Zone. These events, or instances, become your own personal study of performance-specific information. You can save time by coding instances as you capture your movie. Then if you want to change, add or delete information, it's easy to go back and do so later.

Main Coding Objects

Event Button - a code button
Properties:
Name
Lead Time
Lag Time
Functions:
can become *turned on* creating a new instance
can become *turned off* ending the instance

Shape - a decorative graphical object
Properties
Shape & Color
Functions
To create a visual scene on the Coding Form

Text - a graphical object
Properties
Object size, Text Font & Color
Functions
To create artistic text on the Coding Form

Clicking of an "EVENT", "SHAPE" or "TEXT" Icon will place an object in the Coding Form. A button in the Form must be "highlighted" before you can work with it with the Inspector function when you are designing your Coding Form.

Click on a button to "highlight" it. It is highlighted when it has become surrounded by eight (8) square re-sizing knobs; one in each corner and one in the middle of each side. A button can be moved around the Coding Form by clicking on the center of the button and dragging it to the desired location.

A button may be customized for easy recognition to differentiate it from other buttons in the Coding Form and to set specific system parameters around how it will function when it is used during a coding session.

A button may be named, functional properties attributed to it and the appearance of a button may be manipulated by using the "INSPECTOR" function. (refer to page 31)

Import an Existing Form

This is a standard file import process. You are able to import a Coding Form which has been exported from another Gamebreaker project and/or from a CODA application. When you click on the "Import Form" button, the window will open which contains your file storage list(s) to select the Form file you require.

Coding forms can be moved from computer to computer without any problems just like any other type of file. You can share your work and have everyone using the same terminology and coding schemes

NOTE : Code Forms created in a SportsCode application are not able to be imported.

Create a New Coding Form

By default a Coding Form is created each time you create a new project. This form will be required to be populated either by importing an existing form or by designing a new form.

Use

above to create a new form or

Import Form...

To design a new Form simply click on one of the Design icons in the Coding Form Toolbar. (See the section below .... "Design Mode"

Gamebreaker does not accomodate multiple Coding Forms for a Project. If you want to create a new Coding Form for a particular Main Movie, you will be required to create an entirely new Project with the same Main Movie.

The Coding Form Toolbar

Code   Design   T   ✱

1 2 3

The Coding Form contains a Toolbar with 5 icons which have 3 distinct functions :

> 1. Operating Mode Functions - (Code ; Design)
> 2. Coding Objects - (Event ; Shape ; Text)
> 3. Action Functions

Operating Mode Functions

The Mode selected (the active mode) will be in white text on a blue background.

Code Mode

In Code Mode, when objects on the Coding Form are activated and/or deactivated, an instance will be started and/or ended in the Timeline. When a code button is clicked to start marking an instance, the instance will start at the position of the playhead in the Timeline if no lead time is set for the button.

Design Mode

In Design Mode, objects can be placed on or removed from the Coding Form and objects on the Coding Form may be manipulated. *Note*: In Design Mode you will notice a colored halo around the active object in the Form to indicate that the object is selected and will be available for manipulation in accordance with the functions of the Inspector.

Note : If you are in Design mode and Capture is initiated Gamebreaker will, by default, change to Code mode.

Design Mode

Design a Coding Form

In the Coding Form Toolbar, select "Design" mode. Select the coding object you require by clicking on it. The coding object selected will be placed on the coding form.

Each object placed on the form has it's own layer so that the second object created will be above the first and the third above the second and so on. The order may be changed by using the "Arrange" menu in the Main Menu bar.

Event Button

When, (and each time) you click on this icon an Event button will be placed in a descending vertical sequence on the left side of the Coding Form. This will have a default caption "Event" in the center of the button. This Event button will be used to mark an event as an instance in the Timeline.

By default the button shape will be a rectangle with rounded corners. You may make the corners more or less rounded or square by clicking and dragging the purple dot to the right or to the left.
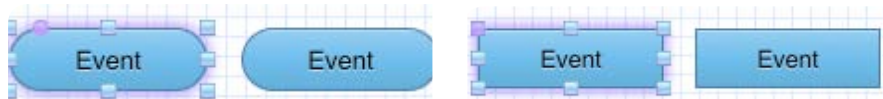
To name an Event button, double click on it and type the name or highlight the button (single click) and then open the Inspector window and select the Properties options.

To manipulate the buttons properties, and it's appearance characteristics use the Inspector function.

When an activity is being coded, clicking on an Event button will "activate" or "deactivate" the button and at the same time create an Instance in the Timeline. The button may deactivate itself automatically or may be required to be manually deactivated depending upon whether or not the Lag Time function is active (refer to "Event Time Tweaks" on page 32).

Shape

When, (and each time,) you click on this icon a Shape button (by default a rectangle with square corners colored yellow) will be placed in a descending vertical sequence in the Coding Form.

A Shape button has no coding function(s). The purpose of a Shape button is to help organize your buttons visually, which can make the coding process easier – especially live. You may color it , change its shape etc to use as a background mat by using the Inspector function.

TextBox

When, (and each time,) you click on this icon the word "Text" surrounded by 8 resizing knobs will be placed in a descending vertical sequence in the Coding Form. A Text box has no coding function(s). Its purpose is purely to place text at your selected place in the Coding Form. A Text Box can be resized and the text can be selected to be aligned left, right or centered within the text area.

Contextual Menu Shortcut

When you click on this icon in the Coding Form Toolbar, you will be presented with the "Form" dropdown from the main menu.

Coding Form Grid Background
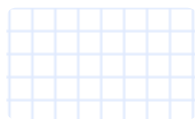
The default coding form has a background with a grid pattern. The purpose of this grid is to assist you to position your coding form objects on the form relative to one another. You are able to be more precise with this positioning by using the Geometry function in the Inspector Appearance.

Inspector in the Coding Form

Click on the object in the Coding Form to highlight it , then select the Inspector icon button from the Project Window Controls or select "VIEW" > "Show Inspector" from the Main Menu. The Inspector Panel will open.

Click on the symbol, (which will then be backlit with a sky blue hue,) to expose the "Properties Window", which will allow you to specify the objects properties.

Click on the symbol, (which will then be backlit with a sky blue hue,) to expose the "Appearance Window" , which will allow you to determine how your object and/or button combination(s) will appear.

Inspector Properties Tabs
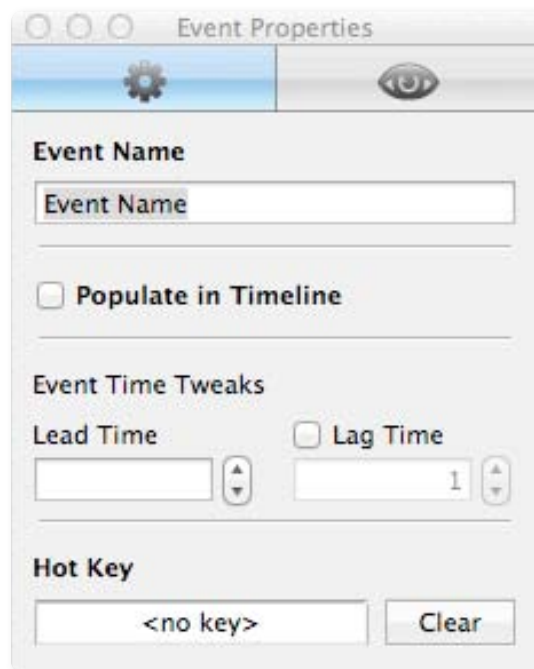
Name an Event Button
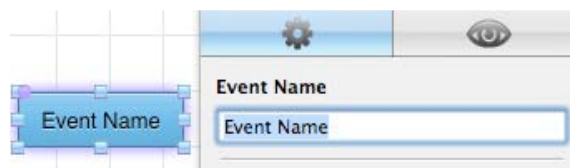
With the button highlighted, in the "Event Name" panel of the Inspector Properties function, type the name (or caption) that will describe the Event. In the illustration above "Event Name" has been used. You may also name an Event button by double clicking on the button and then typing a new caption.

Populate in Timeline

Below the Event Name field is a checkbox "Populate in Timeline". If you tick this box, a row with the Event Name will be automatically created in the Timeline when coding begins. Usually a row is not created until the button is pressed.

Event Time Tweaks

You have complete control over the duration of each event you code. Using the Lead and Lag Times means you can program Gamebreaker to automatically add a specific time to the beginning or to the end of an event marked in the Timeline . In the illustration below, 5 seconds Lead Time and 10 seconds Lag Time have been selected.

1. The purpose of the Lead Time selection box is to set a predetermined period that the instance will start before the timepoint that the event button was activated. In the illustration above, the instance is set to commence 5 seconds before the time the event was marked by clicking on the Event button.

2. The Lag Time selection box has 2 purposes :

(i) When the Lag Time box is not ticked, it will require the coding operator, (when the activity is being coded) to mark when the instance will stop by clicking on the Event button to manually deactivate it.

(ii)When the Lag Time box is ticked, the Event button will be deactivated automatically, (and the instance will end) after the period (in seconds) specified.

Hot Keys

You may choose to assign a keyboard Hot Key or a combination of keys to any button. This will allow you to use your mouse and/or your keyboard to activate a button while you are coding in a live environment. To provide for this option, click on the Text box from the "Hot Key" panel at the bottom of the Inspector window and then type in your keyboard option preference.

If a Hot Key has been nominated, it will be displayed in the top left corner of the button. You may also display or hide all the Hot Key combinations in the button titles in the Coding Form by clicking on the Contextual Menu button (or from "FORM" in the Main Menu) select "Show/Hide All Hot Keys".

Inspector Appearance Tab
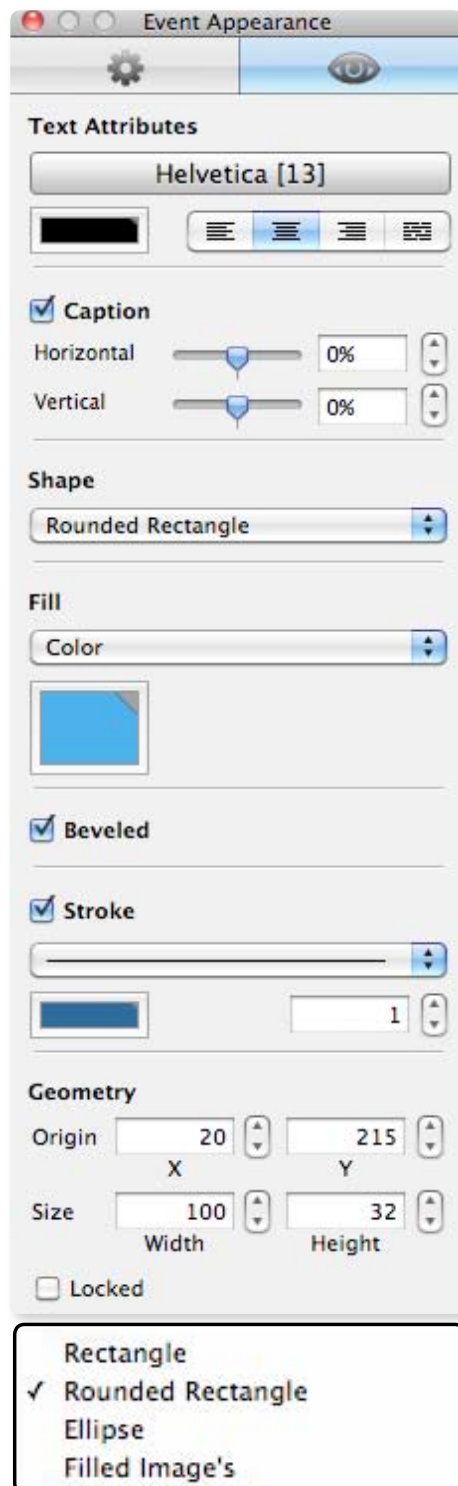
Text Attributes

You may amend the font, font color and position of text

Caption

The default setting places this Event Name, (or Caption) centrally within the target button. You may move the Caption within the borders of the button either horizontally or vertically by clicking on and dragging the "**Caption**" sliders. If you prefer you may also move the Caption outside the borders of the button.

Wherever you move a Caption to, it will remain relative to the button borders even though you may subsequently choose to move or re-size the button. To show or hide the Caption in the button, tick on the Check box to show it and turn the display of the Caption off by clicking on the Caption box to deselect it.

You may change the color and typeface of the Caption by selecting the button then clicking on "VIEW" > "Show Fonts" in the Main Menu. A window will appear which will present you with a variety of standard Font options. To change the Caption Font color, select the font color box displayed in the upper center right of the window; a color drop down window will appear. Select the color palette you prefer from the Color Toolbar and then click on your color choice.

Button Shapes and Images

This function is the same for Event buttons and Shape buttons. If you wish to graphically represent different events you may change the shape of a button or import an image to use as the button. The following 4 shape options are available within the drop down menu. These shapes may be manipulated by using the re-sizing knobs.

If an image has been imported, "Filled Image's" will be the default display. The shape of the Filled Image may be manipulated by selecting one of the other 3 options and using the resizing knobs.

The Fill Panel – Button and Form Presentation

Button Presentation

This function is the same for Event buttons and Shape buttons. The "Fill" panel allows you to color the button by clicking on the default color in the color box. The Colors palette choice will drop down. Click on the button color you want from your preferred palette .

You may also choose to make your button transparent by selecting "None" as your choice.

You may also choose to use an image as a button. With the button highlighted open the "INSPECTOR" function and from the "Fill" panel drop down menu select the "Image" option. A File List window will open.

Select the image you wish to use, (this could be a photograph, illustration or symbol) . The image will fill the target button.

The "Fill" panel in the Inspector window will change when you select this button to show the image and to provide further options for Image button re-sizing.

T
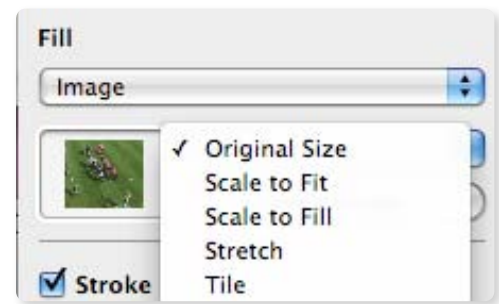
o manipulate the image, first use the resizing knobs to get the image to a size and shape that is suitable. If the image does not fit the required shape, or if during the shape and size manipulation the image has become distorted, you can restore image integrity by selecting one of the options in the Image drop down menu which best suits your needs.

If you had previously placed a name in the Event button this name will remain in the button overlaid on the image. To remove the name (if the image portrays the event), with the Event button selected, select the "INSPECTOR" icon and deselect the "Caption" box by removing the tick from the box.

The Gradient option in the Fill panel provides the ability to fill the button with a color gradient vertically or horizontally.

Form Presentation

In the same way as the "Inspector – Fill" function may be used to fill a button, it may also be used to color the background of the Form. By default the Form background is white. To change the background to a color of your choice, place the cursor within the Form but clear of any button, and click to ensure that nothing in the Form is highlighted. From the Inspector panel select the Appearance panel and then the "Background" box. The Colors palette choice will drop down. Select the color you want from your preferred palette, the background color will change with your selection.
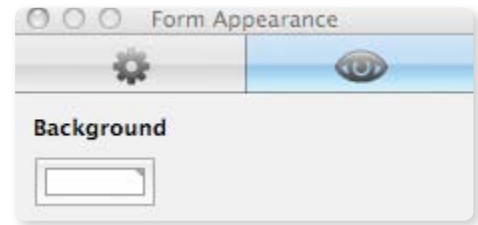
Bevel

Ticking this option will give your button a subtle bevel shading appearance.

The Stroke Panel – Button Presentation

This function is the same for Event buttons and Shape buttons. The "Stroke" panel scribes a border outline around the button. By default the Stroke is the same color as the button background. If you click on the colored panel underneath the "Stroke" box, a color chart will appear. Select the color you want the button outline to be, and then click on the up or down arrowheads box on the right of the panel to set the width of the outline which will be drawn from the existing outside of the box in.
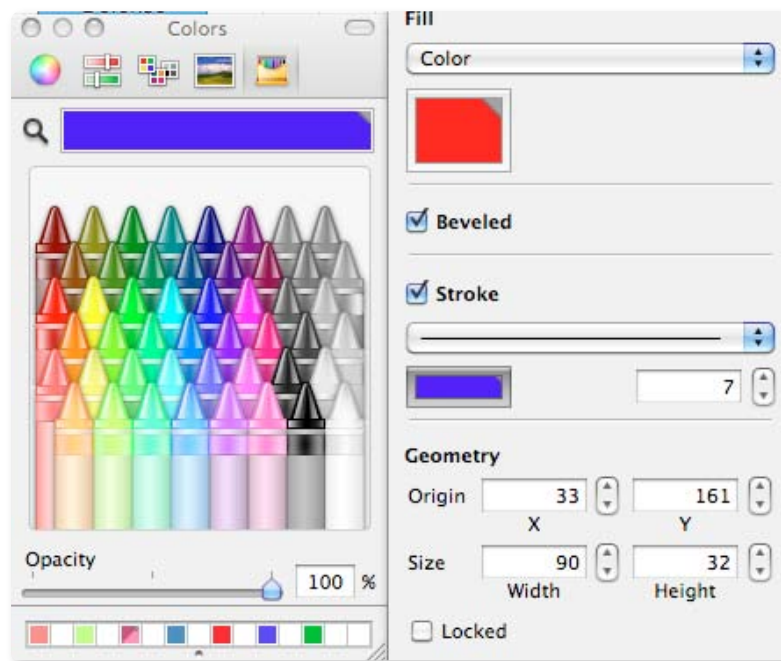
Here is an example of a result of settings used above.
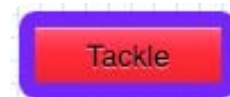
Geometry

This function is the same for Event buttons and Shape buttons.

This function allows you to vary the position of a button and the size of a button in the Coding Form very precisely.

If you highlight the target button, it's position in the Form will be precisely described in the Origin and Size boxes. The reference values "X" and "Y" are references in pixels to size from the left hand side and from the top of the button for the Size boxes. For the Origin boxes, the "X" value refers to the distance of the left hand side of the button from the left hand side of the Form and The "Y" value refers to the distance of the the top of the button from the top of the Coding Form. In the illustration above, the left side of the button is 53 pixels from the left of the form and 41 pixels from the top of the button to the top of the form.

The position of the button may be locked by checking the "Locked" box. This will prevent the button from being moved within the Form no matter what other positioning or repositioning of buttons or combinations of buttons may occur. To turn this function off, re-check the box.

Colors

When you **_click_** on the "Show Colors " option in the View column of the Main Menu bar a Color Palette will open which presents a Toolbar range of 5 palette options for selecting colors. In the example below the center option of the 5 options available has been illustrated.
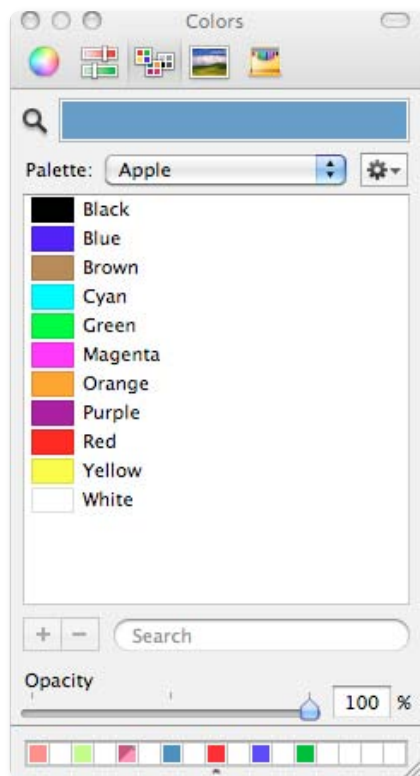
There are 3 function features common to all the 5 palette choices which will assist you in enhancing the coding of your Coding Form. The "magnifying glass" symbol at top left beside the color bar can be used to capture a specific color hue from anywhere, by clicking on the symbol, it will become your cursor. Next place this modified cursor over the color you want to use and click on it. The color chosen will be displayed in the color bar and if you have the target button highlighted it will also change to the color choice.

At the bottom of the Color window is a row of boxes referred to as the Favorite Colors Bar. These boxes may be used to store any special or favorite color mixes you have chosen so that they may be recalled at any time. Once a color has been chosen and that color is displayed in the color bar click on the color bar and drag the color to one of the favorites boxes at the bottom of the color window. To recall a color simply click on the color in the favorites box and drag it to the color bar.

Immediately above the line of color favorites boxes is an Opacity slider. This may be used to vary the opacity of a color selected and displayed in the color bar. The Opacity Slider can also be used to make a button transparent for use in some more advanced coding applications.

You may color a button's text by highlighting the button, then double clicking on the button text, then following the instructions in the previous sentence. You may also wish to refer to the sections above for options within the "Fill" submenu of the "Inspector" function to effect color change.

Fonts

This function is available for Event buttons and for the Text box.

1.   Highlight the text that you want to change the font of
2.   Click on the Appearance panel in Inspector
3.   Click on the box containing the font name and font size

The Font Menu will be displayed
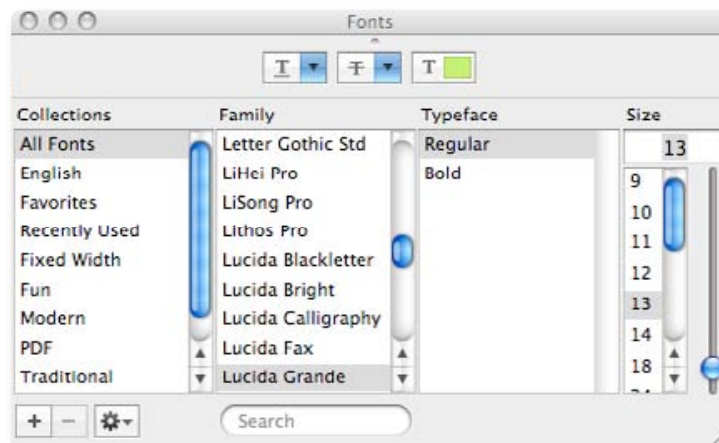
Select the font style, typeface and size from the selections in the drop down menu. To change the text color in this menu routine click on the color box and choose the color from the palette choice. For more detailed color options refer to the sections above.

Editing a Coding Form

Delete a Button

Click on the button in the Coding Form and press DELETE on the keyboard.

Delete a Group of Buttons

1. Press the COMMAND key and select the buttons you want to delete, or click and drag over the group using the lasso bounding box to make the selections.

2. Press DELETE on the keyboard.

Move a Button

Click on the button and drag it to the required location in the Form or use the arrow keys to move it more precisely.

Move a Group of Buttons

1. Press the COMMAND key and select the buttons you want to move, or click and drag over the group using the lasso bounding box to make the selections.

2. Click and drag the buttons to the required position in the Form.

Duplicate a Button

1. To duplicate a button and its properties, highlight the button by clicking on it once. Ensure that any Geometry properties are Unlocked.

2. Press the OPTION key and click and drag the duplicate to another location within the Coding Form.

3. Name the new button. All the properties will be the same as the original except for any Hot Key assigned. Hot keys can only be used once per Coding Form.

4. To duplicate a button from one Coding Form to another, highlight the button by clicking on it once then copy it (COMMAND + C), open the Project which contains the target Form and then paste it into that Coding Form (COMMAND + V)

Duplicate a Group of Buttons

To duplicate a group of selected buttons from one Coding Form to another, press and hold the COMMAND key and click on each button in the group to highlight them. Then copy them (COMMAND + C), open the Project which contains the target Form and then paste them into that Coding Form (COMMAND + V)

Button Layers

Every button created in the Coding Form is on a separate layer. Each object placed on the form has it's own layer so that the second object created will be above the first and the third above the second and so on. The order may be changed by using the "Arrange" menu in the Main Menu bar.

It is sometimes useful to overlap buttons or hide them.

1. To move a button to the top layer, highlight the button, press OPTION and COMMAND and the DOWN ARROW key.
2. To move a button to the bottom layer, highlight the button, press OPTION and COMMAND and the UP ARROW key.
3. To move one layer at a time, press the COMMAND key and press ARROW UP to move the layer forward 1 level at a time or press COMMAND key and press ARROW DOWN to shift the layer backward 1 level at a time.

Alternatively, right click (CONTROL+CLICK) on the button and select the action from the drop down menu.

Save a Coding Form

By default, the objects which you place on the Coding Form and the properties of those objects are saved when the project is saved.

Export a Coding Form

Once you have created all your code buttons on the Coding Form, you can use this Form as a template for other projects to code any movie. This saves time as you will not have to recreate all the buttons in a new project.

1. In the Form Menu select "Export Form".
2. Give the Form a name and a file destination.

Code Mode

Code a Movie

Code Mode will insert instances at the *position of the playhead* on the timeline. When an Event button is clicked to start marking an instance, the instance will start at the playhead if no lead time is set for the button. After the movie is captured, coding can be done by dragging the playhead to any location (or use the movie transport controls such as fast forward or rewind or the playback speed can also be set slower), that you want to code, then hold down the Command key and drag & drop the playhead to manually create an instance.

Coding Instances

a. From a new Project

1.   Open a new Project and select "Import Movie"
2.   Select the movie file you wish to code and import it to your project
3.   Build or import a Coding Form
4.   Press the Code mode button and the movie will begin to play. When you see an event in your movie that you want to code, click on the relevant code button or use your preset hot key.

b. From an existing Project

Open the Project. Press the Code mode button and the movie will begin to play. When you see an event in your movie that you want to code, click on the relevant code button or use your preset hot key. If the button has been customized with a specified lag time, you will see a circular timer countdown fill the button until the lag time runs out.
Note : the video must be playing in order for the circular timer to activate ie. if you are coding with the movie paused, and click on a button with a lag function, you will not get the timer.

Stop Coding

To stop coding, just stop the movie. Of course Coding will have stopped at any time as soon as the last code button has been deactivated.

Pause / Restart Coding

To pause the coding (and pause the movie) and then to restart the coding press the Space bar on the keyboard. *Note* : any code button which is active when the space bar is pressed will be paused and be reactivated when the pause is reactivated.

Live Coding during Capture

Coding can be done during capture. You can code using the mouse or using hot keys. To save time, we suggest using hot keys because you can type while watching the performance, whereas if you are mousing you will have to look where you are clicking.

The Timeline

A Timeline is a graphical representation of the movie duration expressed in hours: minutes: seconds: hundredths of a second. The timeline may be segmented into Instances which catagorize chosen events which happen in the movie. A Timeline may also contain drawing objects.

Both the Main movie and Instance movies will have their own independant timeline. Drawing objects may be placed within either timeline, but because they act independantly of each other, the drawing objects in one will not be visible in the other.

A Timeline is populated with Instances by the coding process in which Event buttons in the Coding Form are selected to identify and catagorize the events which you wish to analyze. Instances may also be created manually in the Timeline.

Components of the Timeline

When your Timeline and movie are open, the movie is displayed in the Movie Zone at the top of the screen and the attached timeline is displayed below the Movie Thumbnail Display.

The Timeline Toolbars

Click on the arrowhead to Show or Hide the Event Rows. Click on the **+** button to add a new row.

Click on the arrowhead to Show or Hide the Drawing Rows.

Displays what is selected .... Movie; Clipboard or Whiteboard. The Action Button is a mirror of the Main Menu Timeline selection.

The Timeline Displays :

A Timeline of your movie is represented in hours, minutes, seconds and hundredths of seconds. The movie is displayed from the location of the playhead in the Timeline. The playhead is the square red pointer with a triangular apex pointing in a downward direction and with a red line extending down through the Timeline Rows. It can be dragged right or left to move through time in the movie.

Event Rows that are populated by Instances from Event buttons. The number of Instances in the row are displayed in the row tab at the left. A selection indicator tab will be located at the right of the row name to display the number of instances which have been selected in the row.
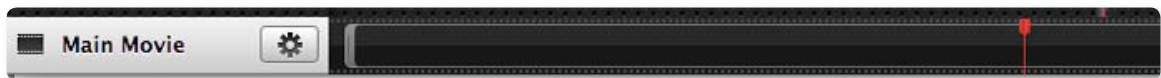
Drawing Rows that are populated with Drawing Objects from the Drawing Toolbar. By default the duration of a drawing object is 3 seconds. The number of Drawing Objects in the row are displayed in the row tab.

Instances in the Event Rows and Objects in the Drawing Rows and where they happen within your movie timeline.

Zooming in the Timeline

Along the base of the Timeline is the Timeline View Control Bar. The entire length of this bar represents the entire length of the movie (Main, Instance or Dock) and it's associated timeline which is displayed in the Movie Zone. The Timeline View Control also contains a red playhead. This playhead is a display only and it graphically displays where the actual Timeline Playhead is in relation to the entire Timeline when the Timeline view is zoomed. The Timeline Playhead and the Timeline View Control playhead will only be automatically aligned when the Timeline View Control Bar fills the entire baseline. To align the playheads manually, click and drag the Timeline View Control bar left or right.

When you hover the cursor over the Timeline View Control Bar it will assume a grey outline with a resizing bar at each end. Clicking and dragging either of these end bars will cause the movie Timeline to zoom in (when you make the bar shorter) and zoom out (when you make the bar longer). When you zoom in, the timescale on the Timeline will expand in an inverse proportion to the size of the Timeline View Control Bar. You may visualise the remainder of the "expanded" timeline extending out beyond the boundaries of your screen.

Import a Timeline in XML Format

A SportsCode XML edit list file can be imported.

To import a Timeline or XML file, select Timeline > Import Timeline and then make your required file selection.

You cannot have a timeline without a movie, so you must have a movie captured in your Project before you can import a Timeline. From the Main Menu select Timeline **>** Import Timeline.

Inspector in the Timeline

The Inspector tool assigns Behaviour and Appearance properties to Objects

Click on the instance (object) in the Timeline to highlight it , then select the Inspector icon button from the Project Window Controls or select "VIEW" > "Show Inspector" from the Main Menu. The Inspector Panel will open.

Click on the symbol, (which will then be backlit with a sky blue hue) to expose the "Properties Window", which will display the Start and End times and Duration of the instance.
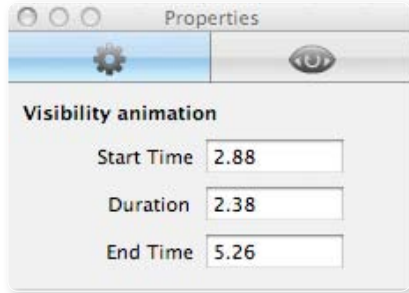
You may edit the start time, duration and /or end time. If you change either the start or end time, the duration will be automatically amended.

Click on the symbol, (which will then be backlit with a sky blue hue) to expose the "Appearance Window" , which will allow you to determine the color of the instance. Altering the color here will not affect the color of the button in the Code Window.

Manipulating Instances in the Timeline

After the movie is captured and available with a Timeline, coding can be done by dragging the playhead to any location, or in the Movie Window by using the movie player controls such as fast forward, even the playback speed can be set faster or slower with the player controls.

Manually Create a New Instance for a Code already existing in the Timeline

1. Highlight the Event Row by clicking on the event row name.
2. Position the playhead at the point in the timeline where you want the instance to start or end.
3. Press down and hold COMMAND then click and drag the playhead in the timeline to the required end or starting point.

Adjust the Length of an Instance or a Drawing Object

Click on the Instance (or the drawing object instance) to select it. The Instance will assume a white outline with a resizing bar at each end. Clicking and dragging either of these end bars will cause the start time (left end) and end time (right) to be changed. The duration will be automatically amended.
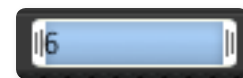
Move an Instance in a Timeline Row

An Instance may be moved within it's Event Row in the same manner as adjusting the length of an instance.

Move all Instances in a Timeline Row

You may "nudge" all the instances in a row left or right. Highlight an Event row or multiple rows. From the Timeline dropdown in the Main Menu (or by clicking on the Contextual Menu icon) select the "Adjust Timeline Instances.." option. A window will open in the Timeline baseline which will display an editable value in increments of 0.1 second. The instances will be nudged right or left in the Timeline row by the specified value in seconds. A positive value will nudge all the instances in the row to the right, by preceding the value with a minus (-) sign the instances will be nudged to the left.

Delete an Instance

Click on the Instance in the Timeline to highlight it and press the Delete key on the keyboard.

Move or Delete Multiple Instances

If you wish to delete or adjust multiple instances in a timeline you may select multiple instances by lassooing them.

To lassoo, click and hold within the timeline in the vicinity of the instances which you wish to select. drag the cursor, which will scribe a shaded box, to encounter the instances you want. When you release the mouse those instances selected will have their resizing bars highlighted.

To delete the multiselected instances press the Delete key on the keyboard. To adjust the instances, select the "Adjust Timeline Instances" option from the Timeline dropdown in the Main Menu or from the Action button in the Timeline baseline.

Note: 1. You must begin your lassoo manouvre clear of an instances (ie. in the black background).
          2. This maouvre does not apply to Timeline Rows

Skimming in the Timeline

You may preview any Instance in the Timeline by "skimming". First select the Instance by clicking on it, then as you pass your cursor over the Instance a vertical red line will appear in the instance and the movie will scroll through as if you were moving the Timeline playhead

Synchronized Drawing Objects and Drawing Instances in the Timeline

Each drawing object in the movie will create it's own Drawing Event Row and Drawing Instance. Each time a new drawing object is placed in a movie, a new row will open in the Timeline. You may replicate a drawing object at selected intervals throughout the duration of the movie by following the instructions "*Manually Create a New Instance for a Code already existing in the Timeline* " above. By default, if the drawing object's color is changed, then the color depicted in the drawing event row in the timeline will correspondingly change and if a drawing object is deleted, the drawing instance and the drawing event row will also be deleted.

The Movie Dock

The thumbnail of the movie in the Movie Dock which is active and loaded to play in the movie zone will be highlighted with a blue outline as illustrated in the Main Movie Thumbnail above.

The Main Movie Thumbnail

The Main Movie thumbnail is at the left of the Movie Dock.

The Main Movie icon button to the left of the thumbnail opens the Movie Action Menu which is a mirror of the drop down Movie options in the Main Menu.

The Instance Movie Thumbnails

The Instance Movie thumbnails (which occupies the main body of the Movie Dock) is a pictorial display of thumbnails of Instance Movies and Whiteboards which have been created in the Project. The Movie Dock may also contain Spliced Boards.

The Movie Dock is constructed in the order in which the Instance Movies are created from left to right except when the order has been changed manually. You may change the order of an Instance Movie in the Movie Dock by clicking on the Instance Movie thumbnail then drag it to the amended position and drop it.

The Instance Movie Dock icon button to the left of the thumbnails opens the Instance Movie Action Menu.

When the number of thumbnails in the Movie Dock exceeds the amount of real estate available for presentation of the entire Movie Dock, you can scroll forwards or backwards through the Movie Dock by clicking the open arrowhead buttons at the left (for back) or right (for forward) at either end of the display.

Clicking the solid arrowhead which is located at the top left of the Instance Movie Dock display will play the Instance movies from first to last in their order in the Movie Dock. At the same time an Event Row will open named "Movie Dock" which will contain all the dock movies displayed as numbered instances in their dock order

Clicking the garbage bin icon located at the top right of the Instance Movie Dock will delete **all** the Instance movies in the Instance Movie Dock.

The Spliced Board

A Spliced Board is a combination of two Instance Movies that are synchronized and displayed side by side. A Spliced Board can only exist in the Movie Dock. It is not represented in the Timeline. By default the Spliced Board will only play for the duration of the shortest of the 2 movies after the synchronization has been determined.

When the Spliced Board is selected in the Movie Dock, both spliced movies will be surrounded by the blue border. A Spliced Board is created by click, drag and dropping an Instance movie onto another Instance Movie in the Movie Dock. In the Spliced Board the movie on the left will be the movie which was dragged, the movie on the right will be the movie onto which the dragged movie was dropped. By default, the initial synchronization will be the start point of each movie.

The position in the Movie Dock of the dragged movie will change if it is dragged further than the movie immediately to the left or right of it. If the movies in the Movie Dock were to be assigned a ranking from low to high as you traverse from left to right, then if an Instance movie is dragged from a higher position to a lower one, then the dragged movie will be repositioned in the Movie Dock immediately to the right of the movie onto which it was dropped. If the movie is dragged from a lower position to a higher one, then the dragged movie will be repositioned in the Movie Dock immediately to the left of the movie onto which it was dropped. The position of the Spliced Board in the Movie Dock will be located immediately to the right of the 2 movies of which it is comprised. ***Note :*** A Spliced Board created will be kept in the Movie Dock and stored in the Project along with the Instance Movies, it will be included in the Dock Movie when the movie is played.

A Spliced Board can be exported.

Synchronizing the Movies
The playback control applies its functions to both movies in the Spliced Board as if it were playing a single Instance movie after taking into account any synchronization applied. Each Instance Movie


in the Spliced Board has a synchronization control slider that allows you to choose the synchronization point for each Instance Movie.

Determine what is to be your synchronization point such as the time a ball is struck. Use the playback control to find the first time the chosen synchronization event occurs in either movie. Next use the slider bar below the instance movie (illustrated within the red oval in the picture above) which allows you to advance or reverse the instance movie to find the synchronization point and then you may fine tune the exact synchronization point by stepping the movie back and forth. Next use the slider and stepping controls under the other instance movie to find the synchronization point for that movie. Now move the floating playback control back to the beginning (left) ready to play the 2 movies which will be synchronized to the synchronization points in each.

Note : The sliders below the instance movies in the spliced board will move in unison when they are being used. This is because they will reflect the synchronized start and resultant end time.

Skimming in the Movie Dock
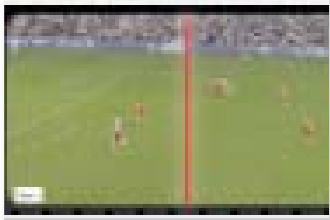
You may preview any Instance movie in the Movie Dock (except a spliced movie) by "skimming". As you pass your cursor over the Instance movie thumbnail in the Movie Dock a vertical red line will appear in the thumbnail and the Instance movie will scroll through as if you were moving the Timeline playhead.

Delete an Instance Movie or Whiteboard from the Movie Dock

To delete an Instance Movie or Whiteboard from the Movie Dock , click & hold then drag the thumbnail out of the Movie Dock and drop it anywhere. A "puff cloud" image will briefly appear to illustrate that the movie or whiteboard has been deleted. Or you can highlight the thumbnail and press the Instance Movie Dock icon at the left and select "Remove Clip".

Inspector in the Movie Zone

The Inspector tool assigns Behaviour and Appearance properties to Objects

Click on the movie thumbnail of the main movie or of an instance movie in the Movie Dock which you want to select , then click on the movie window and then activate the Inspector icon button from the Project Window Controls or select "VIEW" > "Show Inspector" from the Main Menu. The Inspector Panel will open.

Click on the symbol, (which will then be backlit with a sky blue hue) to expose the "Clip board Properties Window", which will display the Movie Format , the technical properties of the movie and its duration.
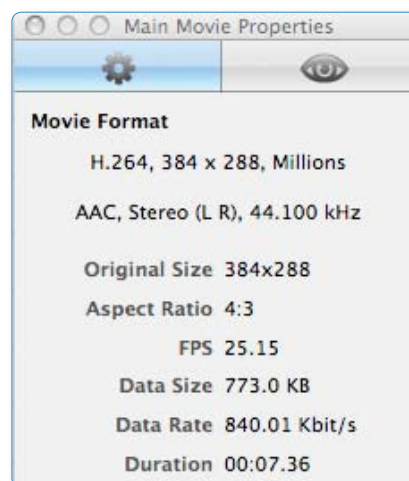
The Inspector has no Appearance functions in the Movie Zone.

Gamebreaker Drawing Tools

The Drawing Toolbar

The drawing toolbar contains tools for creating drawing objects.

The drawing objects created :

Can only exist on an Instance Movie or in the Main Movie or on a Whiteboard. By default they will be colored Yellow.

Have their own Timeline Row irrespective of how many drawing objects may be placed in a Timeline. By default their duration is 3 seconds except where less than 3 seconds remain in the Timeline.

May have their visibility and/or appearance manipulated within the Movies on which they are overlaid.

Because both the Main movie and Instance movies have their own independant timelines, drawing objects placed in one will not be visible in the other.

Drawing Tools

Select the tool you wish to use by clicking on it once. The tool selected will be lit with a blue background. To activate the tool click on the movie zone and drag the cursor. Activate the Inspector for that tool to change the properties from the default. Gamebreaker stores any amended Inspector properties as a new default setting. A tool is deactivated as soon as you discontinue dragging the cursor. Gamebreaker will automatically return to the Selection tool (cursor) when the tool is deactivated.

You may lock a selected tool, (so it doesn't deactivate after each use) if you wish, by clicking on the tool icon twice. A tool will remain locked, even though you may move to another clip or to a whiteboard, until it is unlocked. To unlock the selection, select another tool.

The Drawing Toolbar Icon Functions

The Drawing Toolbar Icon. This is not a button.

The Selection Tool

Use the Selection tool to move the position of drawing objects, to vary the size, or to select 1 or more drawing objects in the view.

The Freehand Tool

The Freehand tool provides you with the ability to draw freehand objects. Objects drawn with this tool will be fixed as to what was drawn once the tool has been deactivated. You may manipulate the position and overall dimensions by using the Selection tool.

The Straight Line Tool

The Straight Line tool allows you to draw a straight line. You may reposition a straight line drawn, and reposition either end of the line by using the Selection tool.

The Shape Tools

The Shape tool allows you to draw up to 3 varying shapes in the movie view. Use the Inspector function to choose the shape of the default and to vary the shape of an existing Shape object.

The Text Tool

Select the Text Tool and click in the movie. Use the Inspector to set the font, the font size and color. Type the text in the text box. You may change the dimensions of the Textbox by using the Selection Tool to drag a corner to your required size

To edit the text, double click on the text using the selection tool.

Angle Measurement Tool

The Angle Measurement tool acts initially as a freehand tool to allow you to draw 2 lines and then display the internal and external angles between the 2 lines from their point of intersection. Use the Selection tool to reposition the extremity points of each line and also the intersection point.

Line Measurement Tool

By using known distances in a frame of video, you can accurately measure other distances relative to a known distance. You can use the known distance to set the relative scale of the measuring tool. By default the line drawn will be divided into 4 equal sections. For greater accuracy it is recommended that you select landmark points in the horizontal plane (x-axis) and in vertical plane (the y-axis) as close as possible in the view you wish to measure. Double click on the measurement displayed and replace it with your known measurement for the distance between the 2 points. (*NOTE*: If you wish to include a unit measure eg. Metre or ft etc. you must place a space between your numeral(s) and the alphameric text.) This will set your measurement scale. Using the Selection tool, reposition the extremity points of the measure to where you want to measure the distance from and to. The measure will display the distance as determined by the scale you had set.

Show or Hide the Drawing Toolbar

Click this button in the Movie Player Control to display or Hide the Drawing Toolbar.

Create Drawing Objects in a Movie

With a movie open select the appropriate drawing tool and mark the movie according to your wishes. Each time a new drawing object is placed in a movie, a new row will open in the Timeline.

Create Drawing Objects in the Timeline

You may replicate a drawing object at selected intervals throughout the duration of the movie by :

1. Highlight the Row by clicking on the Drawings Row name.
2. Position the playhead at the point in the Timeline where you want the object to start or end.
3. Press down and hold COMMAND then click and drag the playhead in the Timeline to the required end or starting point.

Copy and Paste Drawing Objects

Drawing Objects may be copied (highlight the object then use the Apple function COMMAND + C) and pasted (use the Apple function COMMAND + V) either into the same movie clip or into another movie clip.

If you paste the object into the same movie clip the pasted object will be offset to the right, slightly below and in front of the original. This is to allow you to view both the original and the copied objects. If you paste the object into a different movie clip it will be placed in the same geometric position in the screen as the original.

Inspector with Drawing Tools

The Inspector tool assigns Behaviour and Appearance properties to Objects

Click on the Drawing Tool to highlight it , then select the Inspector icon button from the Project Window Controls or select "VIEW" > "Show Inspector" from the Main Menu. The Inspector Panel will open.

Click on the ⚙ symbol, (which will then be backlit with a sky blue hue) to expose the "Properties Window". Only the Line Measurement Tool has Inspector Properties.

As the measurement displayed on the drawing in the movie changes, this will also change in the Text Box in the Inspector. If you change the text in the Inspector, this change will be reflected in the measurement display in the drawing on the movie.

Click on the 👁 symbol, (which will then be backlit with a sky blue hue) to expose the "Appearance Window".

For the Line Tool, the Freehand Tool and the Shape Tools you are able to vary the following Stroke Attributes :
- Stroke type
- Stroke width
- Stroke color

For the Line Tool and Freehand Tool you are also able to choose a shape for the end(s) of the line.

For the Text Tool, the Angle Tool and the Ruler Tool, you are able to choose from the following Text Attributes :
- Fonts
- Text color
- Text geometry / bias

For the Angle Tool and the Ruler Tool you are also able to vary the Stroke Attributes listed above.

The Whiteboard

A whiteboard only appears in the Movie Dock and it functions as a standalone Clip. A whiteboard is comprised of drawing objects that have no movie behind them, the background is static. By default a whiteboard background is white, but you may change the background to any color by using the Inspector function. A whiteboard has its own Timeline and has a fixed duration (by default 10 seconds) which may be varied by amending the duration with the Inspector function (see below) to an accuracy of .01 of a second.

A whiteboard may be exported as a standalone file for later editing and/or reuse. This file can be used in other projects and shared with others. (Refer to the Share section of this manual).

Note : A whiteboard created will have the same aspect ratio (screen size) as the main movie.

Create a Whiteboard

From the Dock Menu in the Main Menu bar, select "Add White Board". A blank whiteboard will be presented in the movie window along with a Drawing Toolbar from which to select the drawing objects which you wish to place on the whiteboard. A whiteboard created will automatically be saved to the Movie Dock.

Each drawing object on a whiteboard will be added as a row to the whiteboards Timeline. A drawing object will by default have a duration of 3 seconds. You may manipulate the duration and visibility of the object(s) on the whiteboard by changing or duplicating the object instance(s).

To change the background color, select Inspector and using the Appearance function select the Fill option.

### Add a Whiteboard with the Current Frame as a Background

You may capture the current frame as an image background by selecting "Add a White Board with Current Frame" from the Movie Menu.

Inspector with the Whiteboard

The Inspector tool assigns Behaviour and Appearance properties to Objects

Click on the whiteboard in the Movie Zone to select it , then select the Inspector icon button from the Project Window Controls or select "VIEW" > "Show Inspector" from the Main Menu. The Inspector Panel will open.

Click on the symbol, (which will then be backlit with a sky blue hue,) to expose the "Properties Window", which will display the duration of the whiteboard.
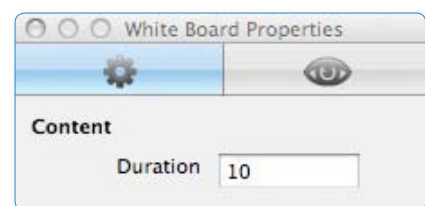
Instance Movies

Instances are the events in the Timeline which are created by the Coding process or are created manually (Refer to the Coding and Timeline sections of this manual for more detailed information on these processes). Instance Movies are created by double clicking on the instance in the Timeline or by clicking and dragging the instance to the Movie Dock. They are automatically saved and displayed as a thumbnail in the Movie Dock. They are placed in the Movie Dock from left to right in the order in which they are created.

Creating Instance Movies

You can create an instance movie from:
- A single instance.
- Selected Instances in a single row.
- All instances in a single row chronologically.
- All instances across multiple rows chronologically (Merge rows).
- All instances in order of selected rows by row number (Sequential rows).
- Instances in selection order in a single row or across multiple rows (Selection order).

Create a Movie from a Single Instance

Double click on the instance in the timeline. An instance movie of that instance will be placed in the Movie Dock.

Create a Movie from Selected Instances in a Single Row

1. Hold down the Command key and click on the required instances in the row to highlight them.
   2. A selection indicator tab will open at the right of the row name field which will display the number of instances selected.
3. Double click on any of the highlighted instances or the selection indicator.
4. An instance movie of those instances in chronological order will be placed in the Movie Dock

Create a Movie from all Instances in a Single Row Chronologically

Double click on the Row tab which indicates the number of instances in the row. An instance movie of those instances in chronological order will be placed in the Movie Dock

Merge Rows

Merge rows creates an instance movie of all instances in the selected rows in chronological order of the timeline. When multiple instances in different rows overlap, the merge rows feature will merge those instances in the instance movie. The instance movie created will have each of its component rows displayed.

1. Hold down COMMAND to select multiple rows. Select the row of instances by clicking on the row number.
2. Right (Control) click on one of the rows to expose the selection menu.

Sequential Rows

Sequential rows creates an instance movie of the instances in row order of the timeline for all selected rows from the top down. All instances in each row will be played in chronological order.

1. Organize the timeline rows from top to bottom by clicking and dragging on the row name.
2. Hold down the COMMAND key and click on the row names to select multiple rows.
3. Right (Control) click on one of the rows to expose the selection menu.

Selection Order

Selection order will create an instance movie of all instances selected in the order in which they are selected in the timeline.

1. Hold down the COMMAND key and click on the instances in the order you want them to play in the instance movie. As each instance is selected, it is labeled with a number [1], [2], [3]...
2. Right (Control) click on one of the instances to expose the selection menu.

Saving Instance Movies

Any instance movie can be saved as a file for presentation, archive, or distribution purposes.

1. Click on the movie that you want to save. It will be surrounded by a blue border.
2. Choose "Export Clip" from the Dock menu in the main menu bar.
3. Name the file and select "Where".
4. Set the required movie format from the bottom of the save window.
5. Click the Save button.

Working with Code Rows

Add a New Blank Row to the Timeline

Press the Add new row icon in the timeline toolbar or select "Add Event" from the Timeline Menu.

Move a Row

Click and drag the row up or down in the timeline or : highlight the row and while holding down the COMMAND key, press the UP or DOWN arrow key.

Move Multiple Rows

Press COMMAND and click on the rows you want to select. Ensure that you hold your mouse button on the last selection and drag the rows to your chosen location. The rows will move together in their original top down order.

Duplicate a Row

Create a new blank row by clicking on the + button. Select all instances in the row to be copied by clicking on the row number. Then hold down the Option key and click on any of the highlighted instances (or on the row selection indicator tab) and drag them into the new row

Copy selected Instances from a Row into a new Row

Create a new blank row by clicking on the + button. Highlight each instance to be copied in the row by Command + Click on each instance. Then hold down the Option key and click on any of the highlighted instances and drag them into the new row. The instances will be in time order.

Delete a Row

1. Click on the row you want to delete and press the Delete key or :.
2. Click on the row you want to delete and select "Delete Timeline Event" from the Timeline menu.

Edit Row Names

1. Double click on the row name you want to edit.
2. Type in the new name in the text area.

Change Code Name Color

1. Click on the row you want to edit.
2. Open the Inspector and click on the Fill color box.
3. Select a new color.

Sorting Code Rows

Rows can be sorted in a variety of ways, manually dragging up and down being the most common. You can also sort using name and color to automate the process.

The Sort Panel

To specify a sort setting for the Timeline, select "Timeline" from the Main Menu or click the Settings icon then "Sort Timeline Events". You will be presented with the Sort panel.
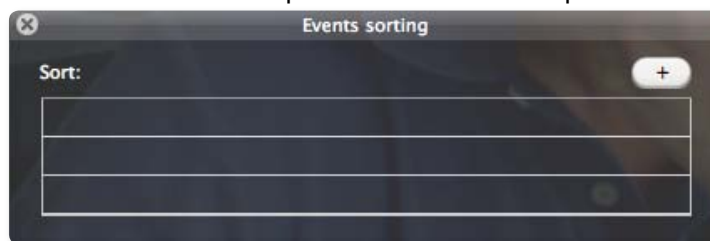
In the Sort Panel you are able to sort by the following Timeline criteria :
• Code Name ; Row Color ; Number of Instances

- You may choose the sort order of the above criteria .
- Each of the above sort criteria can be set in ascending or descending order.
- Where you have colors, these colors will be grouped (see explanation below).
- The sort criteria will be automatically saved for the project.
- You may manually amend the sort order by clicking on a row in the Timeline then dragging and dropping it into the required sorted position. *Note*: If you change the sort order manually, the previously saved sort criteria setting will be broken.

To specify a sort sequence for the Project Timeline, in a blank Sort Panel click on the "+" button on the right to fill the top panel for the first of your sort criteria. By default the first criteria presented will be Code. To change this to one of the other criteria, click on the adjacent up/down button and select the criteria you require. You should next select whether you want the sort sequence to be in ascending or descending order.

To remove a sort selection click on the "X" button in the sort row.

Sort Rows by Name

All rows will sort in alphabetical order.

Sort Rows by Color

Colors are sorted in order of the palette from left to right descending from lighter to darker. The color palette has 600 colors and each color has an (X,Y) coordinate. White in the upper left most corner (1,20) and the darkest red in the lower right most corner (30,1) define the sorting pattern from left to right, top to bottom.

Sort Rows by Color then by Name

All rows will sort by color and then within each color sort by name.

Sort Rows by Number of Instances

All rows will sort according to how many instances are in each row. The row with the most amount of instances will move to the first row. The row with the second most amount of instances will move to the second row and so on.

Imports

Import a Movie

This is a standard file import process. When you click on the "Import Movie" button in the New Project Window or select "Import Movie" from the dropdown Movie tab in the Main Menu, the window will open which contains your file list(s) to select the movie file you require.

Gamebreaker is compatible with any movie format which can be opened with Quicktime Player. Refer to the Capture section for further details.

Import a Coding Form

Coding forms can be moved from computer to computer without any problems just like any other file. You can share your work and have everyone using the same terminology and coding forms.

This is a standard file import process. You are able to import a Coding Form from another Gamebreaker project and/or from a CODA application.

When you select "Import Form" from the Contextual Shortcut button or select this option from the dropdown "Form" tab in the Main Menu, the window will open which contains your file storage list(s) to select the Form file you require.

Refer to the Code section for further details.

Import a Timeline

Timeline presented in SportsCode XML format

A SportsCode XML edit list file can be imported.

To import a Timeline or XML file, select Timeline > Import Timeline and then make your required file selection.

You cannot have a timeline without a movie, so you must have a movie captured in your Project before you can import a Timeline. From the Main Menu select Timeline **>** Import Timeline.

Import a Whiteboard

A stored whiteboard file can be imported into any Gamebreaker project. To import a whiteboard, select "Import White Board" from the Dock dropdown in the main menu. The imported whiteboard will posess all the properties of the original whiteboard which was exported. The imported whiteboard will be added at the end of the instance movies already existing in the movie dock.

A whiteboard will have the aspect ratio of the main movie in which the whiteboard was originally created. When a whiteboard is imported into a project which contains a movie that has a different aspect ratio, it will be automatically resized to fit the new movie size but it will retain its original aspect ratio

White Board

Resized Imported White Board

New Project's Board
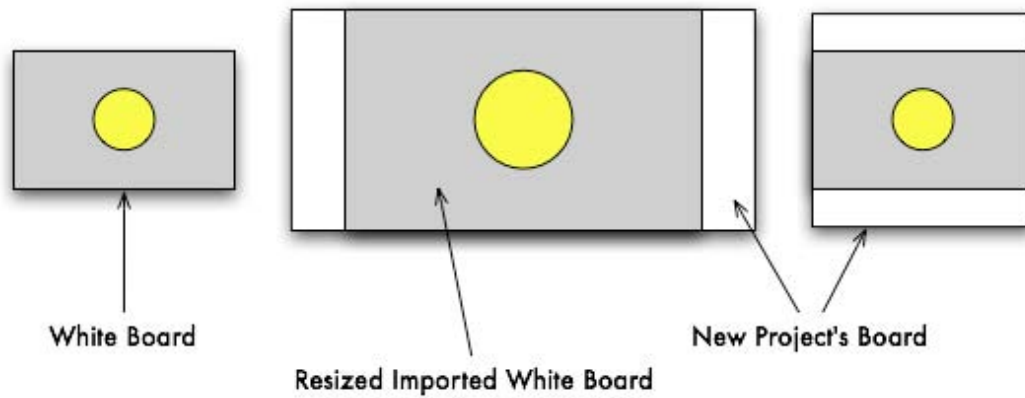
In the illustration above the image on the left represents the original size of the imported whiteboard containing a circular graphical object. The image in the centre illustrates how an imported whiteboard with an aspect ratio of 4 : 3 would be resized if imported into a movie with an aspect ratio of 16 : 9. The illustration at the right illustrates how an imported whiteboard would appear if it was a whiteboard with an aspect ratio of 16 : 9 imported into a movie with an aspect ratio of 4 : 3.

Exports

Export a Main Movie

Any Main movie can be exported as a file for presentation, archive, or distribution purposes.

Select "Movie " from the Main Menu. Select "Export Main Movie" from the Menu . The following drop down panel will open.
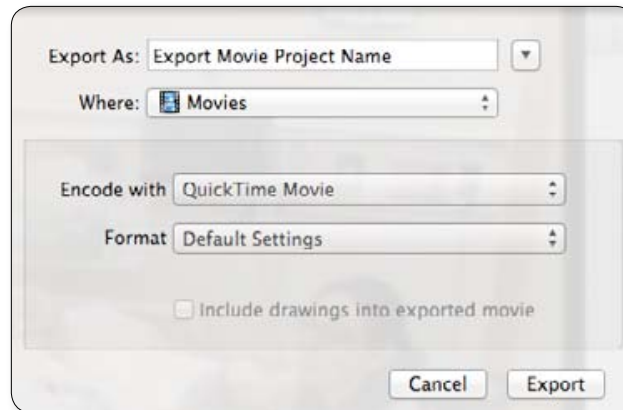
Give your exported movie a name (In the "Export As" field) and specify the storage destination.

The "Encode with :" field will present you with a menu of available movie file formats.
The "Format" field will present you with a menu of available preset file quality options.

Note : You should be mindful of the distribution medium you will be using. Gamebreaker has offered preset formats to optimize the file size and quality to suit the chosen distribution format for a given file type so that you export your file in the type and format best suited for the intended recipient.

You may precisely determine the quality of the export file by selecting the "Edit" option in the "Format" dropdown, then selecting "Duplicate" to copy the general preset format, then choosing your desired settings. Be aware that no matter what format settings you choose, the quality of the output exported will largely be determined by the quality settings that were used for the capture.

Export a Dock Movie

You may export the entire Movie Dock as a movie. Select "Dock" from the Main Menu, then "Export Movie Dock" and follow the directions as above. Any properties which you have ascribed to each clip comprising the Dock Movie, such as slow or fast playback speed, will be retained in the Dock Movie.

Export a Clip Movie

You can export a single Clip. Click on the Clip in the Movie Dock which you wish to export to highlight it. Select "Dock" from the Main Menu, then "Export Clip" and follow the directions as above. Any properties which you have ascribed to each clip, such as slow or fast playback speed, will be retained in the exported movie.

Note: The exported movie will be required to be imported into another Gamebreaker project if it is to be reopened in Gamebreaker. Depending on your chosen exported movie format, it may be able to be opened if the movie format is available to a recipient.

Export a Coding Form

Coding forms can be moved from computer to computer without any problems just like any other type of file. You can share your work and have everyone using the same terminology and coding schemes. Select "Export Form" from the Contextual Shortcut button or select this option from the dropdown "Form" tab in the Main Menu.
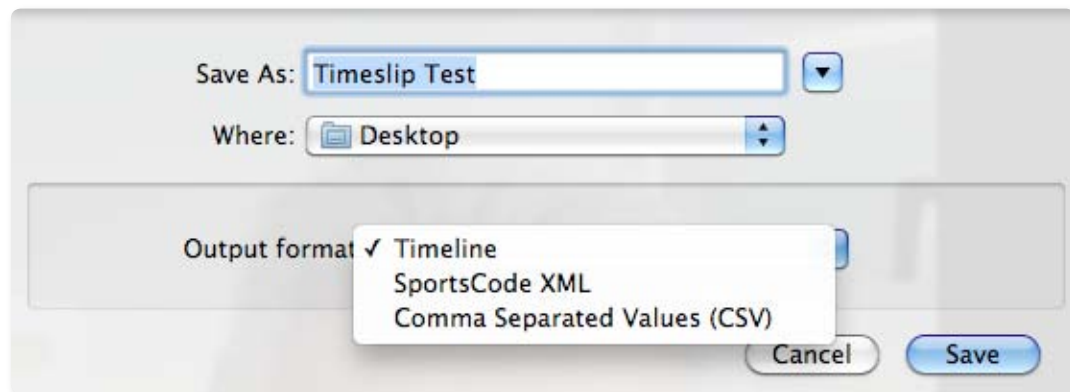
An exported coding form will be represented by this file icon when you have your "Show icon preview" option checked in your Desktop Preferences.

Export a Timeline

Timeline data can be easily exported and used in other applications such as Excel and Final Cut Pro. You may export a file into other formats and it will not affect the original file.

Select "Timeline" from the Main Menu, then "Export Timeline". From the dropdown menu provide a file name, storage address and file format.

An exported timeline will be represented by this file icon hen you have your "Show icon preview" option checked in your Desktop Preferences.

Export as SportsCode XML Edit List

The SportsCode XML edit list generates a list of events in play order, but in an XML structure. The SportsCode XML edit list is used for transferring timeline information to a SportsCode application.

Export as CSV Edit List

The CSV Edit list is used for transferring timeline information to an Excel spreadsheet application. However, since it is a common file structure, it can be used in hundreds of ways.

Export a Whiteboard

A whiteboard can be exported as a standalone file for later editing or re-use. To export a whiteboard, select "Export White Board" from the Dock dropdown in the main menu. The exported whiteboard will posess all the properties of the original whiteboard. The sexported whiteboard is an independant copy of the whiteboard it was made from.

An exported whiteboard will posess the following properties of the original whiteboard :

• All the whiteboards properties will be visible in the Inspector
• The whiteboards Timeline event(s)
• All drawings along with their properties including any graphics/images
• Drawing timeline events and instances

An exported whiteboard will be represented by this file iconhen you have your "Show icon preview" option checked in your Desktop Preferences.